

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
22 September 2005 (22.09.2005)

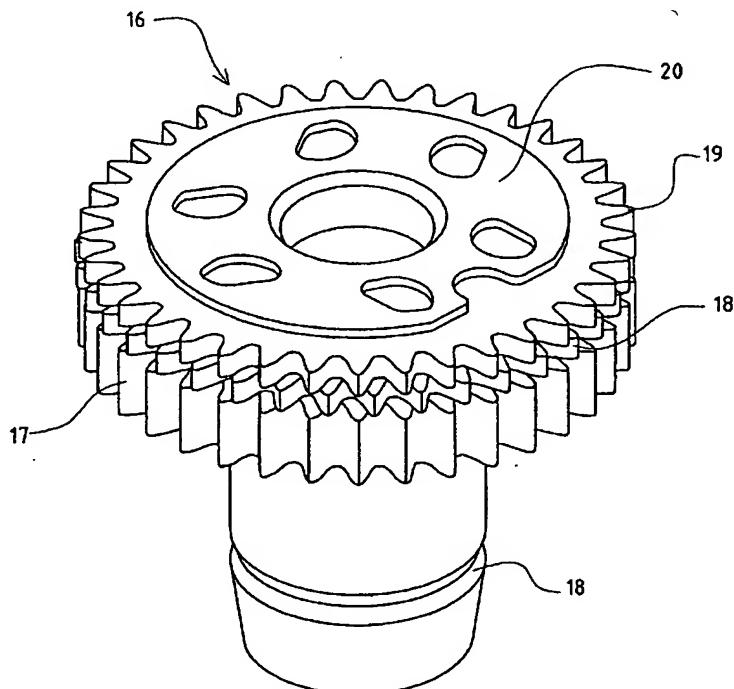
PCT

(10) International Publication Number  
**WO 2005/087569 A1**

- (51) International Patent Classification<sup>7</sup>: **B62D 1/10**
- (21) International Application Number: **PCT/SE2005/000264**
- (22) International Filing Date: 25 February 2005 (25.02.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
0405496.1 11 March 2004 (11.03.2004) GB
- (71) Applicant (*for all designated States except US*): AUTOLIV DEVELOPMENT AB [SE/SE]; S-447 83 Vårgårda (SE).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): CHAPELAIN, Etienne [FR/FR]; 48 bis, rue Joseph Zamanski, F-86440 Migné-Auxances (FR). GROLEAU, Laurent [FR/FR]; 1, rue de la République, F-86190 Latillé (FR).
- (74) Agent: MEULLER, Erik; Autoliv Development AB, S-447 83 Vårgårda (SE).
- (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

*[Continued on next page]*

(54) Title: A GEAR ARRANGEMENT



(57) Abstract: A steering-wheel arrangement is disclosed which comprises a steering-wheel having a first gear element. A second gear element is provided which is mounted on a steering column. The first and second gear elements inter-engage one another and the arrangement is further provided with an anti-backlash gear which is mounted on one of the gear elements. The anti-backlash gear has teeth configured to align substantially with the teeth of the gear element upon which it is mounted, and the anti-backlash gear is biased relative to the gear element upon which it is mounted towards a position in which the teeth of the anti-backlash gear become displaced from the corresponding teeth of the gear element. This gear arrangement has been found to provide improved "feel" for a person driving a motor vehicle.



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

— *with international search report*